

Service
Service
Service

Information

1983-04-28

CD200

A83-125

**Already published / Reeds verschenen / Déjà publié /
Bereits veröffentlicht
A83-108**

(GB)

To adapt the Service Manual the following sheets have been changed/added.

(NL)

Voor het aanpassen van de Service Manual zijn onderstaande pagina's gewijzigd/toegevoegd.

(F)

Afin de pouvoir adapter le Manual Service les feuillets suivants ont été soit modifiés, soit ajoutés.

(D)

Zur Anpassung des Service Manual sind nachstehende Seiten geändert/hinzugefügt.

**Change sheets/Wijzigingsbladen/Feuillets de
modification/Änderungsblätter:**

1-1-c, 1-2-a

5-1-a, 5-2-b

11-1-a

**Supplementary sheets/Toevoegingsbladen/Feuillets
d'adjonction/Zusatzblätter:**

6-5

1. TABLE OF CONTENTS PER PAGE

Chapter	Page	Contents	Chapter	Page	Contents
2	2-1	Elucidation on the lay-out of the documentation	8	8-3-1	Circuit diagram of power supply A83-108
3	3-1-a	Technical specification A83-108		8-3-2	Power supply PCB A83-108
4	4-1	Control buttons			Parts list
5	5-1-a	Servicing hints A83-108	8-4		Circuit diagram of the pre-amplifier
	5-2-b	Parts list service aids A83-125	8-5		Pre-amplifier PCB
	5-3	Decasing the frame			Parts list
		Removing the front	8-5-1		Circuit diagram of the pre-amplifier (NEG.VOLT.PH.) A83-108
		Servicing the switch- and display PCB	8-5-2		Pre-amplifier PCB (NEG.VOLT.PH.) A83-108
		Replacing a LED			Parts list
		Servicing the decoder PCB and the servo PCB	8-5-3		Circuit diagram of the pre-amplifier (POS.VOLT.SH.) A83-108
		Replacing the turntable motor	8-5-4		Pre-amplifier PCB (POS.VOLT.SH.) A83-108
	5-4-a	Replacing the cover A83-108			
		Servicing the RAFOC-unit	8-6		Circuit diagram command circuit
6	6-1-a	Height setting of the turntable A83-108	8-7		Command circuit PCB
		Checking the angle setting			Parts list
	6-2-a	Checking the angle setting A83-108	8-8		Circuit diagram servo circuit (part 1)
		Adjusting the angle setting	8-9		Servo PCB
	6-3-a	Specification measurement A83-108			Parts list
		Changing the transformer connections	8-10		Servo PCB
		Adjusting +2 supply voltage			Parts list
		Laser power supply check and adjustment (NEG.VOLT.PH.)	8-11		Circuit diagram servo circuit (part 2)
	6-4-a	Adjusting the focus bandwidth A83-108	8-11-1		Circuit diagram servo circuit (part 1) A83-108
		Adjusting the offset control	8-11-2		Servo PCB A83-108
		Checking the AGC and offset circuits			Parts list
		Adjusting the channel equality	8-11-3		Servo PCB A83-108
		Adjusting the PLL circuit			Parts list
	6-5	Laser power supply check and adjustment (POS.VOLT.SH.) A83-125	8-11-4		Circuit diagram servo circuit (part 2) A83-108
7	7-1	Exploded view mechanism	8-12		Circuit diagram decoding circuit (part 1)
		Parts list of the mechanism parts	8-13		Decoding PCB
		Parts list of the cabinet parts			Parts list
	7-2	Exploded view cabinet	8-14		Decoding PCB
	7-2-1	Exploded view mechanism A83-108			Parts list
		List of the mechanism parts	8-15		Circuit diagram decoding circuit (part 2)
		List of the cabinet parts	8-15-1		Circuit diagram decoding (part 1) A83-108
	7-2-2	Exploded view cabinet A83-108			
8	8-1	Block diagram			
	8-2	Circuit diagram of the power supply			
	8-3	Power supply PCB			
		Parts list			

Chapter	Page	Contents	
8	8-15-2	Decoding PCB	A83-108
		Parts list	
	8-15-3	Decoding PCB	A83-108
		Parts list	
	8-15-4	Circuit diagram decoding (part 2)	A83-108
	8-16-a	Circuit diagram decoding circuit (part 3)	A83-108
	8-17-a	Decoding PCB	A83-108
		Parts list	
9	9-1	Drawing of wiring	
	9-1-1	Drawing of wiring	A83-108
10	10-1	Faultfinding method	
	10-2	Faultfinding method	
	10-3	Faultfinding method	
	10-4	Faultfinding method	
	10-5	Faultfinding method	
	10-6	Faultfinding method	
	10-7	Faultfinding method	
	10-8	Faultfinding method	
	10-9	Faultfinding method	
	10-10	Faultfinding method	
	10-11	Faultfinding method	
	10-12	Faultfinding method	
	10-13	Faultfinding method	
	10-14	Faultfinding method	
	10-15	Faultfinding method	
11	11-1-a	Changes	A83-125
12	12-1	Additional information	A83-108

5. SERVICING HINTS

In order to prevent loose metal objects from getting in the CD mechanism it will be necessary to see to a clean repair station.

Before the player is being used or serviced the two transportation screws in the bottom should be removed. These screws should be reapplied after servicing.

The objective can be cleaned with a blow brush.

The CD-mechanism is provided with self-lubricating bearings and should thus NOT be lubricated.

Do not loosen any screws other than those mentioned in the hints.

The player consists of various MOS ICs. Since MOS ICs generally are very sensitive to overload and overvoltage, servicing operations should be performed with the utmost care. For further instructions see the folder in the packaging of the ICs.

In the player chip components have been applied. For insertion and removal of chip components see Fig.

The disc should always bed down well on the turntable. For this purpose a disc hold-down has been mounted in the cover.

When it is necessary to use a disc for repairs performed on an decayed frame, a loose hold-down should be employed.

Codenummer of disc hold-down: 4822 526 10241.

The servo μ P can be set to the servicing mode in order to check the switch and display PCB and to separately test the servo systems (see sub FAULTFINDING METHOD).

The ICs which are applied in the decoder circuit might have other type numbers than those mentioned in the circuit diagram.

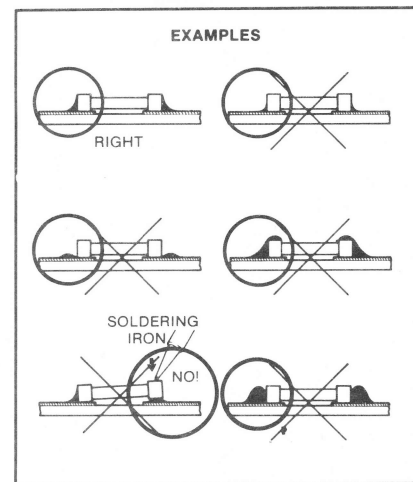
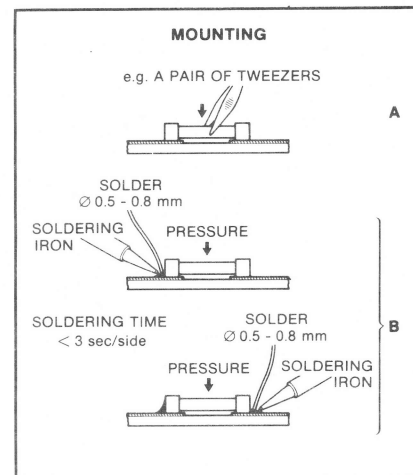
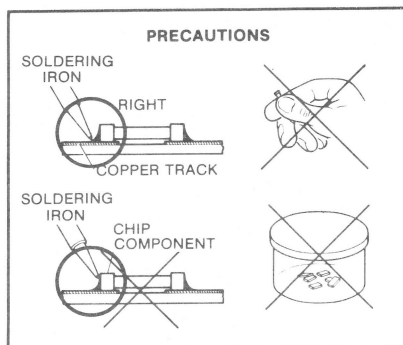
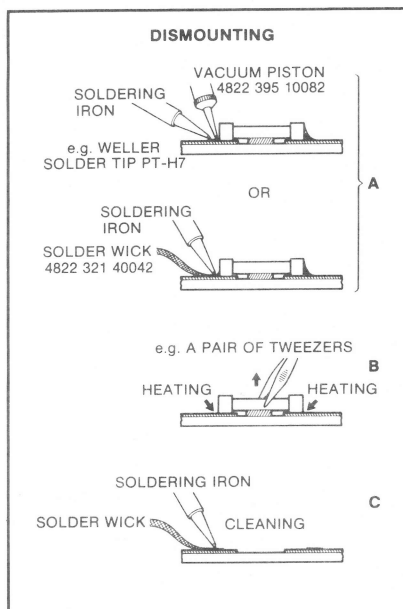
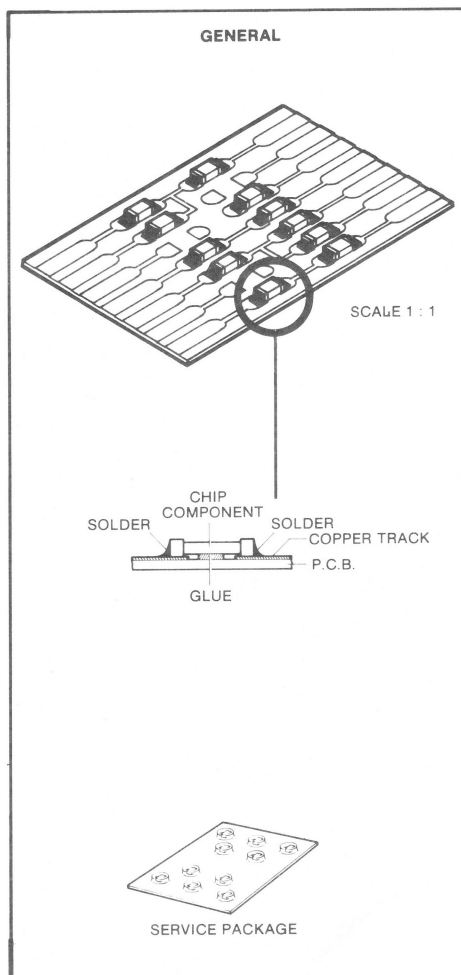
DEMOM = SAA7010 = M429x

FIL = SAA7030 = M455x

x is a figure from 0 ÷ 9.

For adjustments to be performed on the lower side for which the unit should be in the position of normal end use, servicing supports are supplied. Code number 4822 395 30202.

These supports can be fixed in the four holes of the side walls.

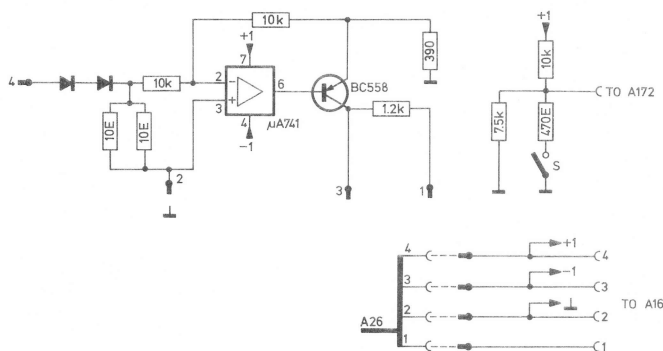


Service aids

Service supports	4822 395 30202	Test IC's	
Laser simulator		Set 1	4822 395 30194
NEG.VOLT.PH.	4822 395 30203	Additional set	4822 397 60069
POS.VOLT.SH.	4822 395 30215	Separate test IC's	
Photo sensitive components		For set 1	
Photodiode	4822 130 31205	SAA7000	4822 395 30198
L.D.R.	4822 116 10002	SAA7010	4822 395 30195
7th order filter	4822 395 30204	SAA7020	4822 395 30196
Mirror for angle setting	4822 395 90205	SAA7030	4822 395 30199
Test discs		MSM2128	4822 395 30197
Glass disc	4822 395 90204	TDA1540	4822 395 30201
Audio performance test disc	4822 397 30085	For additional set	
Disc without local defects,		CX7933	4822 397 60071
Disc with DO failures,		CX7935	4822 397 60072
Black spots disc		Subprint	4822 397 60073
Fingerprint disc	4822 397 30086		
Disc hold down	4822 526 10241		
Screwdriver set TORX			
Straight	4822 395 50145		
Square	4822 395 50132		

Laser power supply (POS. VOLT SH.)

Since the light pin is very sensitive to static charges, care should be taken that during measurements and adjustments of the laser power supply the potentials of the aids and yourself equal the potential of the CD mechanism.



31 966B12

Check

The laser simulator PCB 4822 395 30215 should be used here.

Take the flex PCB out of socket A11 and connect the simulator PCB with the socket.

Remove plug A16 and insert it in the socket on the simulator PCB.

Connect the plug with 4 wires to socket A16. Take out plug A17 and insert the plug with 1 wire in socket A17.

In rest position the current through the laser diode should be ≤ 1 mA.

Check:

Set the switch on the simulator PCB in the OFF position and the mains switch in the ON position.

Turn trimming resistor 3180 counterclockwise (min. R) and measure the voltage across resistor 3194.

The voltage should be ≤ 15 mV.

Check of laser supply control:

Set the switch on the simulator PCB in the ON position and measure the voltages between points +V and -V on the simulator PCB.

Resistor 3180 clockwise (max. R): $U_{+V -V} = 60$ mV ± 30 mV.

R3180 counterclockwise (min. R): $U_{+V -V} = 560$ mV ± 50 mV.

Set resistor 3180 in the mid-position.

This is a preliminary adjustment. After the simulator PCB has been removed the laser current must be adjusted.

Adjustment

Playback track 1 of test disc 4822 397 30086 (Disc without defects). Connect a DC voltmeter across resistor 3308 on the SERVO PCB. Adjust the laser power supply with resistor 3180 until the voltage across resistor 3308 is $500 \text{ mV} \pm 50 \text{ mV}$.

Attention

Too high a laser current (> 550 mV across resistor 3308) will reduce the life of the laser diode.

11. CHANGES

Introduced with A83-108 d.d. 1983-02-21 from marking AH00301.

Description		Reason
Frontpage		CD200/05 added
Table of contents	1-1-b	Contents adapted
Table of contents	1-2	Added Table of contents
Technical specification	3-1-a	Specification adapted
Servicing hints	5-1-a	Text adapted
Parts list service aids	5-2-a	Code numbers adapted
Servicing hints	5-4-a	Text "Servicing the RAFOC unit" changed
Measurements and adjustments	6-1-a	Text adapted
Measurements and adjustments	6-2-a	Text adapted
Electrical measurements and adjustments	6-3-a	Text "Laser power supply" adapted
Electrical measurements and adjustments	6-4-a	Text "Adjusting the focus bandwidth" adapted
Exploded view C.D.M.	7-2-1	Drawing + partslists adapted
Exploded view cabinet	7-2-2	Exploded view adapted
		Added: Lamps LA1 + LA2
		Screws
		Cooling block supply PCB changed
Power supply	8-3-1	Lamps (LA1, LA2) added
		Diodes (6474, 6475) added
		Standard symbols added
Power supply PCB	8-3-2	Drawing and parts list added
Pre-amp. + laser circuit (NEG.VOLT.PH.)	8-5-1	Circuit diagram adapted to production level
Pre-amp. + laser PCB (NEG.VOLT.PH.)	8-5-2	Drawings and parts list adapted to production level
Pre-amp. + laser circuit (POS.VOLT.SH.)	8-5-3	Circuit diagram adapted for lightpin with positive supply voltage
Pre-amp. + laser PCB (POS.VOLT.SH.)	8-5-4	Drawings and parts list adapted
Circuit diagram servo part 1	8-11-1	Drawing adapted to production level
Servo PCB	8-11-2	Drawing adapted to production level
Servo PCB	8-11-3	Drawing adapted to production level
Circuit diagram servo part 2	8-11-4	Drawing adapted to production level
Circuit diagram decoding part 1	8-15-1	Drawing adapted to production level
Decoding PCB	8-15-2	Drawing adapted to production level
Decoding PCB	8-15-3	Drawing adapted to production level
Circuit diagram decoding part 2	8-15-4	Drawing adapted to production level
Circuit diagram decoding part 3	8-16-a	Drawing adapted
Decoding PCB	8-17-a	Drawing + parts list adapted
Drawing of wiring	9-1-1	Wiring adapted to production level

Introduced with A83-125 d.d. 1983-04-28

Description		Reason
Table of contents	1-1-c	Adapted
Table of contents	1-2-a	Adapted
Parts list service aids	5-2-b	Lasersimulator POS.VOLT.SH. added
Measurements and adjustments	6-5	Measurement POS.VOLT.SH. added

